REMARKS

Reconsideration and allowance of the above-identified application is respectfully requested. Claims 1-3, 7-11 and 13-20 are pending, wherein claims 2 and 8 have been amended.

The inventors' representative would like to thank Examiner Stevens for his time and courtesy during the telephone interview conducted on January 13, 2006.

The Office Action rejects claims 2 and 8 under 35 U.S.C. § 112 as being indefinite. Accordingly, claims 2 and 8 have been amended to address this rejection. As agreed to in the telephone interview, claim 2, which previously read "of substantially identical construction," has been amended to read "essentially the same." Applicants respectfully request that the rejection of claims 2 and 8 under 35 U.S.C. § 112 be withdrawn.

The Office Action rejects claims 1-3, 7-9, 12-17, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable in view of "VLSI analog multiplier/divider circuit" (1995) by Wilamowski ("Wilamowski") in combination with U.S. Patent No. 5,479,355 to Hyduke ("Hyduke"). This rejection is respectfully traversed.

As discussed in the telephone interview, the combination of Wilamowski and Hyduke does not render Applicants' claim 1 unpatentable because the

combination does not disclose or suggest all the elements of claim 1. For example, the combination does not disclose "a drive module including *a model of the sensor/actuator component*," as recited in Applicants' claim 1.

The Office Action relies on Hyduke to disclose a drive module that includes a model of the sensor/actuator component. However, as discussed in the telephone interview, although Hyduke discloses the simulation of electronic circuits that interface with sensors and actuators, there is no disclosure by Hyduke of the modeling of actuators and sensors themselves. There is disclosure of the use of Hyduke's system as "a low cost industrial controller" to control actual sensors and actuators located in target hardware 26 (col. 9, line 63 – col. 10, line 8). In addition, if the purpose of Hyduke's system is to control actual sensor and actuators, or simulate the electronics interfacing to actual sensors and actuators, then there would be no point for Hyduke to simulate the sensors and actuators.

Because the combination of Wilamowski and Hyduke does not disclose or suggest "a drive module including *a model of the sensor/actuator component*," as recited in Applicants claim 1, Applicants respectfully submit that the combination does not render claim 1 unpatentable.

Claim 2, similar to claim 1, recites "a drive module including *a model of the sensor/actuator component*." Accordingly for the reasons stated above with

regard to claim 1, Applicants respectfully submit that the combination of Wilamowski and Hyduke does not disclose or suggest all the elements of Applicants claim 2.

Claims 3, 7-9, 13-17, 19 and 20 variously depend from claims 1 and 2. Accordingly, claims 3, 7-9, 13-17, 19 and 20 are patentably distinguishable over the combination of Wilamowski and Hyduke.

In addition, the combination of Wilamowski and Hyduke does not render Applicants' claim 9 and 19 unpatentable because the combination does not disclose or suggest all the elements of claims 9 and 19. For example, the combination does not disclose that the apparatus for simulating an electrical sensor/actuator component comprises "a fault simulation module for generating one of a line interruption and a short circuit," as recited in claims 9 and 19.

The Office Action relies on Hyduke, col. 4, lines 45-53, as disclosing a line interruption being generated by a fault simulation module. However, this section of Hyduke discusses the input signal converter generating an "interrupt" which results in the transfer of data by a I/O program subroutine. This "interrupt" is clearly in reference to an interrupt to a processor in a computer based system, and not relevant to the interruption of an electrical signal.

As discussed above regarding claims 1 and 2, there is no disclosure by Hyduke of simulating sensors and actuators, however if the Hyduke's device were to function as a simulator of sensors and actuators, the ability to simulate a line interruption or a short circuit would require that the interface to target hardware 26 had the ability to simulate these fault conditions. Specifically, lines 50a-50n and 52a-52n, which are the input lines from target hardware 26, would need to be able to appear as an open circuit or as a short circuit to the target hardware 26. However, there is no disclosure by Hyduke of input signal converter 28 being able to generate these fault conditions on lines 50a-50n and 52a-52n as required.

Because Hyduke and Wilamowski both do not disclose or suggest that the apparatus for simulating an electrical sensor/actuator component comprises "a fault simulation module for generating one of a line interruption and a short circuit," the combination cannot render claims 9 and 19 unpatentable.

Applicants respectfully request that the rejection of claims 1-3, 7-9, 12-17, 19 and 20 as being unpatentable over the combination of Wilamowski and Hyduke be withdrawn.

The Office Action rejects claims 10, 11 and 18 under 35 U.S.C. § 103(a) as being unpatentable in view of the combination of Wilamowski, Hyduke and U.S.

Patent No. 6,438,462 to Hanf et al. ("Hanf"). This rejection is respectfully traversed.

As discussed above, the combination of Wilamowski and Hyduke does not disclose or suggest all the elements of independent claims 1 and 2. Applicants respectfully submit that Hanf does not remedy the above-identified deficiencies of the combination of Wilamowski and Hyduke with regard to Applicants' claims 1 and 2, and therefore the combination of Wilamowski, Hyduke and Hanf does not render claims 1 and 2 unpatentable. Claims 10, 11 and 18 variously depend from claims 1 and 2. Accordingly, claims 10, 11 and 18 are patentably distinguishable over the combination of Wilamowski, Hyduke and Hanf.

All outstanding rejections have been addressed. It is respectfully submitted that the present application is in immediate condition for allowance. If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #038738.49512US).

Respectfully submitted,

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